

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-14 (canceled).

15. (currently amended): An image forming apparatus comprising:

an image carrier which is structured ~~so as to be able to~~ carry an electrostatic latent image on a surface of said image carrier;

a toner carrier which rotates in a predetermined direction while carrying toner and ~~accordingly~~ transports said toner to an opposed position facing said image carrier;

image forming means which applies a predetermined developing bias upon said toner carrier, causes said toner carried by said toner carrier to move to said image carrier, visualizes said electrostatic latent image with said toner, and ~~accordingly~~ forms a toner image; and

a timer which measures an elapsed time since an end of formation of a toner image by said image forming means,

~~characterized in that it is possible to selectively execute~~wherein an image forming operation, ~~which requires to for forming~~ a toner image corresponding to an image formation request upon receipt of said image formation request by a user, and an optimization which requires to for forming a toner image as a patch image, are selectively executed to detect a density of said patch image and to optimize a density control factor influencing an image density based on the result of the detection to control an image density,

and ~~that in the event that~~ wherein if said image formation request is not newly received after said elapsed time, measured by said timer, has reached a first predetermined period, said optimization is executed.

16. (original): The image forming apparatus of claim 15, characterized in that in the event that there is said image formation request newly received when said elapsed time is shorter than said first predetermined period but is equal to or longer than a second predetermined period which is shorter than said first predetermined period, said image forming operation in response to said image formation request is executed after executing said optimization.

17. (original): The image forming apparatus of claim 15, characterized in that said toner carrier is rotated at least one round or more before formation of said patch image.

18. (previously presented): The image forming apparatus of claim 15, further comprising charging means which charges said surface of said image carrier to a predetermined surface potential prior to formation of said electrostatic latent image,

characterized in that said elapsed time is measured since termination of charge of said image carrier by said charging means.

19. (original): The image forming apparatus of claim 15, further comprising restricting means which abuts on a surface of said toner carrier at a restricting position which is on the upstream side to said opposed position in a rotation direction of said toner carrier, and accordingly restricts the amount of said toner carried on said surface of said toner carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said restricting position is below the center of rotations of said toner carrier.

20. (previously presented): The image forming apparatus of claim 19, further comprising peeling means which abuts on said surface of said toner carrier at a peeling position which is on the upstream side to said restricting position in the rotation direction of said toner carrier, and accordingly peels off said toner adhering to said surface of said image carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said peeling position is above said restricting position.

21. (original): The image forming apparatus of claim 15, characterized in that a surface of said toner carrier is conductive.

22. (original): The image forming apparatus of claim 15, characterized in that said toner image is formed using said toner which contains a wax component which serves as a parting agent for prevention of fixing offset.

23. (currently amended): An image forming method comprising:
~~in which~~forming an electrostatic latent image ~~is formed~~ on a surface of an image carrier in response to an image formation request from a user; and

~~and~~applying a predetermined developing bias ~~is applied~~ upon a toner carrier which rotates while carrying toner on a surface of said toner carrier, to thereby move said toner carried by said toner carrier to said image carrier, ~~to~~ visualize said electrostatic latent image with toner and ~~to~~ form a toner image,

wherein ~~characterized in that in the event that there is not~~ said image formation request is not newly received after an elapsed time since ~~the~~ an end of formation of a previous toner image, by ~~ansaid~~ image forming means, has reached a first predetermined period, optimization is executed which ~~requires~~ includes forming to form a ~~the~~ toner image as a patch image, to detect a

density of said patch image and to optimize a density control factor influencing an image density based on the result of the detection to control an image density.

24. (currently amended): An image forming apparatus comprising:

an image carrier which is structured ~~so as to be able to~~ carry an electrostatic latent image on a surface of said image carrier;

a toner carrier which rotates in a predetermined direction while carrying toner and ~~accordingly~~ transports said toner to an opposed position facing said image carrier; and

image forming means which applies a predetermined developing bias upon said toner carrier, causes said toner carried by said toner carrier move to said image carrier, visualizes said electrostatic latent image with said toner, and ~~accordingly~~ forms a toner image,

wherein characterized in that it is possible to execute an image forming operation is executed, which said image forming operation includes forming requires to form a the toner image corresponding to an image formation request upon receipt of said image formation request by a user, and

~~and that~~ in the event that said image formation request is received when an elapsed time, since ~~the~~ an end of formation of a previous toner image by said image forming means, is equal to or longer than a third predetermined period, and before executing said image forming operation in response to said image formation request, optimization is executed which includes ~~requires to~~ forming a toner image as a patch image after rotating said toner carrier at least one round ~~or more~~, to detect a density of said patch image and to optimize a density control factor influencing an image density based on the result of the detection to control an image density.

25. (original): The image forming apparatus of claim 24, further comprising restricting means which abuts on a surface of said toner carrier at a restricting position which is on the upstream side to said opposed position in a rotation direction of said toner carrier, and accordingly restricts the amount of said toner carried on said surface of said toner carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said restricting position is below the center of rotations of said toner carrier.

26. (original): The image forming apparatus of claim 25, further comprising peeling means which abuts on said surface of said toner carrier at a peeling position which is on the upstream side to said restricting position in the rotation direction of said toner carrier, and accordingly peels off said toner adhering to said surface of said image carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said peeling position is above said restricting position.

27. (original): The image forming apparatus of claim 24, characterized in that a surface of said toner carrier is conductive.

28. (original): The image forming apparatus of claim 24, characterized in that said toner image is formed using said toner which contains a wax component which serves as a parting agent for prevention of fixing offset.

29. (currently amended): An image forming method comprising
~~in which forming~~ an electrostatic latent image ~~is formed~~ on a surface of an image carrier
in response to an image formation request from a user; and

~~and applying~~ a predetermined developing bias ~~is applied~~ upon a toner carrier which rotates while carrying toner on a surface of said toner carrier, to thereby move said toner carried by said toner carrier to said image carrier, ~~to~~ visualize said electrostatic latent image with toner and ~~to~~ form a toner image,

~~characterized in that~~wherein in the event that ~~there is~~ said image formation request is newly received when an elapsed time, since ~~the~~ an end of formation of a previous toner image, is equal to or longer than a third predetermined period, and before forming a toner image in response to said image formation request, optimization is executed which includes forming ~~requires to form~~ a toner image as a patch image after rotating said toner carrier at least one round ~~or more~~, to detect a density of said patch image and to optimize a density control factor influencing an image density based on the result of the detection to control an image density.

30. (currently amended): An image forming apparatus comprising:

an image carrier which is structured ~~so as to be able to~~ carry an electrostatic latent image on a surface of said image carrier;

a toner carrier which rotates in a predetermined direction while carrying toner and ~~accordingly~~ transports said toner to an opposed position facing said image carrier; and

image forming means which applies a predetermined developing bias upon said toner carrier, causes said toner carried by said toner carrier move to said image carrier, visualizes said electrostatic latent image with said toner, and ~~accordingly~~ forms a toner image,

~~characterized in that~~wherein in the event that ~~there is not~~ said image formation request is not newly received after an elapsed time, since ~~the~~ an end of formation of a previous toner

image₁ has reached a fourth predetermined period, idling of said toner carrier is executed which includes rotating~~requires to rotate~~ said toner carrier at least one round ~~or more~~.

31. (original): The image forming apparatus of claim 30, characterized in that in the event that there is not said image formation request newly received even after said fourth predetermined period from the end of said idling, said idling is executed once again.

32. (original): The image forming apparatus of claim 30, characterized in that when said elapsed time reaches a fifth predetermined period which is longer than said fourth predetermined time, said idling is executed, a toner image is formed as a patch image, a density of said patch image is detected, and a density control factor influencing an image density is optimized based on the result of the detection.

33. (original): The image forming apparatus of claim 30, further comprising restricting means which abuts on a surface of said toner carrier at a restricting position which is on the upstream side to said opposed position in a rotation direction of said toner carrier, and accordingly restricts the amount of said toner carried on said surface of said toner carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said restricting position is below the center of rotations of said toner carrier.

34. (original): The image forming apparatus of claim 33, further comprising peeling means which abuts on said surface of said toner carrier at a peeling position which is on the upstream side to said restricting position in the rotation direction of said toner carrier, and accordingly peels off said toner adhering to said surface of said image carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said peeling position is above said restricting position.

35. (original): The image forming apparatus of claim 30, characterized in that a surface of said toner carrier is conductive.

36. (original): The image forming apparatus of claim 30, characterized in that said toner image is formed using said toner which contains a wax component which serves as a parting agent for prevention of fixing offset.

37. (currently amended): An image forming apparatus comprising:

an image carrier which is structured ~~so as to be able to~~ carry an electrostatic latent image on a surface of said image carrier;

a toner carrier which rotates in a predetermined direction while carrying toner and ~~accordingly~~ transports said toner to an opposed position facing said image carrier; and

image forming means which applies a predetermined developing bias upon said toner carrier, causes said toner carried by said toner carrier move to said image carrier, visualizes said electrostatic latent image with said toner, and ~~accordingly~~ forms a toner image,

~~characterized in that it is possible to execute wherein~~ an image forming operation is executed which requires includes forming to form a the toner image corresponding to an image formation request upon receipt of said image formation request by a user, and

~~and that~~ in the event that ~~there is~~ said image formation request is newly received when an elapsed time, since ~~the~~ an end of formation of a previous toner image, is equal to or longer than a sixth predetermined period, and before executing said image forming operation in response to

said image formation request, idling of said toner carrier is executed which includes rotating
~~which requires to rotate~~ said toner carrier at least one round ~~or more~~.

38. (original): The image forming apparatus of claim 37, characterized in that in the event that there is said image formation request newly received when said elapsed time is equal to or longer than a seventh predetermined period which is longer than said sixth predetermined period, before forming a toner image in response to said image formation request, said idling is executed and optimization is then executed which requires to form a toner image as a patch image, to detect a density of said patch image and to optimize a density control factor influencing an image density based on the result of the detection.

39. (original): The image forming apparatus of claim 37, further comprising restricting means which abuts on a surface of said toner carrier at a restricting position which is on the upstream side to said opposed position in a rotation direction of said toner carrier, and accordingly restricts the amount of said toner carried on said surface of said toner carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said restricting position is below the center of rotations of said toner carrier.

40. (original): The image forming apparatus of claim 39, further comprising peeling means which abuts on said surface of said toner carrier at a peeling position which is on the upstream side to said restricting position in the rotation direction of said toner carrier, and accordingly peels off said toner adhering to said surface of said image carrier,

characterized in that with said toner carrier and said image carrier facing each other at said opposed position, said peeling position is above said restricting position.

41. (original): The image forming apparatus of claim 37, characterized in that a surface of said toner carrier is conductive.

42. (original): The image forming apparatus of claim 37, characterized in that said toner image is formed using said toner which contains a wax component which serves as a parting agent for prevention of fixing offset.

43. (currently amended): An image forming method comprising:
forming in which an electrostatic latent image ~~is formed~~ on a surface of an image carrier;
and
~~and applying~~ a predetermined developing bias ~~is applied~~ upon a toner carrier which rotates in a predetermined direction while carrying toner on a surface of said toner carrier, to thereby move said toner carried by said toner carrier to said image carrier, ~~to~~ visualize said electrostatic latent image with toner and ~~to~~ form a toner image,
wherein ~~characterized in that~~ in the event that ~~there is not~~ said image formation request is not newly received after an elapsed time, since ~~the~~ an end of formation of a previous toner image, has reached a fourth predetermined period, idling of said toner carrier is executed which includes rotating ~~requires to rotate~~ said toner carrier at least one round ~~or more~~.

44. (original): The image forming method of claim 43, characterized in that in the event that there is not said image formation request newly received even after said fourth predetermined period from the end of said idling, said idling is executed once again.

45. (original): The image forming method of claim 43, characterized in that when said elapsed time reaches a fifth predetermined period which is longer than said fourth predetermined time, said idling is executed, a toner image is formed as a patch image, a density of said patch

image is detected, and a density control factor influencing an image density is optimized based on the result of the detection.

46. (currently amended): An image forming method comprising:
~~in which~~forming an electrostatic latent image ~~is formed~~ on a surface of an image carrier in response to an image formation request from a user; and
applying a predetermined developing bias ~~is applied~~ upon a toner carrier which rotates in a predetermined direction while carrying toner on a surface of said toner carrier, to thereby move said toner carried by said toner carrier to said image carrier, ~~to visualize~~ said electrostatic latent image with toner and ~~to form~~ a toner image,
~~characterized in that~~wherein in the event that ~~there is~~ said image formation request is newly received when an elapsed time, since ~~the~~an end of formation of a previous toner image, is equal to or longer than a sixth predetermined period, and before forming ~~a~~the toner image in response to said image formation request, idling of said toner carrier is executed which includes rotating~~which requires to rotate~~ said toner carrier at least one round ~~or more~~.

47. (original): The image forming method of claim 46, characterized in that in the event that there is said image formation request newly received when said elapsed time is equal to or longer than a seventh predetermined period which is longer than said sixth predetermined period, before forming a toner image in response to said image formation request, said idling is executed and optimization is then executed which requires to form a toner image as a patch image, to detect a density of said patch image and to optimize a density control factor influencing an image density based on the result of the detection.